SONY

3-757-867-21(2)

Compact Disc Deck Receiver

Operating Instructions

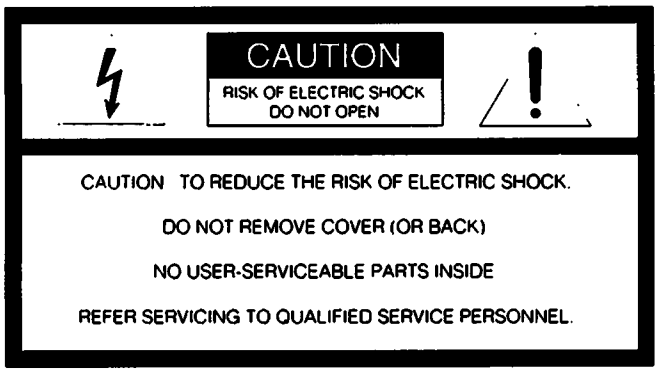
COMPACT disc DIGITAL AUDIO

HCD-241

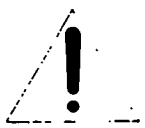
© 1994 by Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

* The graphical symbols are on the rear enclosure.

Note to CATV system installer
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Owner's Record
The model and serial number is located at the rear. Record this serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

HCD-241 Serial No. _ ____ __

INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

CAUTION
You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

CAUTION
The use of optical instruments with this product will increase eye hazard.

For the customers in Canada

CAUTION
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

THIS APPARATUS COMPLIES WITH THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS SET OUT IN RADIO INTERFERENCE REGULATIONS.

Precautions

This unit is a compact disc deck receiver which consists of an amplifier, tuner, stereo cassette deck and 5-compact disc player.
Before operating this unit, be careful about the followings.

On safety
- Operate the unit only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- As the laser beam used in this compact disc player is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

On installation
- Place the unit on a level surface.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat buildup in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On cleaning the cabinet
Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking
Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

On moisture condensation
If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD section. Should this occur, the CD section will not operate. In this case, remove the disc and leave the unit turned on for about an hour until the moisture evaporates.

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

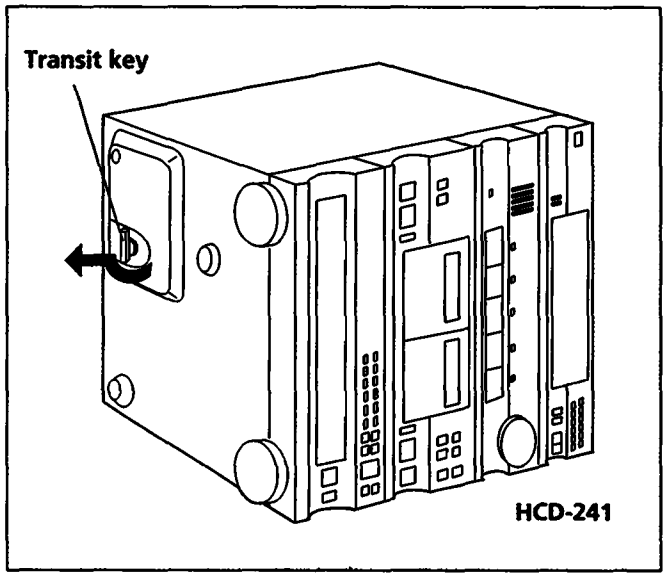
For detailed precautions, see the leaflet "IMPORTANT SAFEGUARDS". (Model for U.S.A.)

Note on the Transit Key

The transit key on the bottom exterior of the HCD-241 protects the optical system against shock during transportation. Before operating the unit, be sure to remove the key by following the instructions on the label, and store it in a safe place.

When transporting the unit, re-install the key by following the instructions below.

1 Remove all the discs from the CD section.
2 Press ⏏ to close the disc tray and wait for "1 (or 2, 3...)" to disappear in the display.
3 Turn the power off.
4 Insert the key into its original hole and lock it in place.



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Remote Commander

The remote commander supplied with this unit can control the unit from a distance.

Battery life

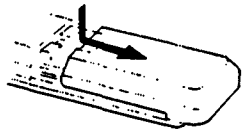
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the remote commander can no longer operate the unit. If this happens, replace both batteries with new ones.

To avoid battery leakage

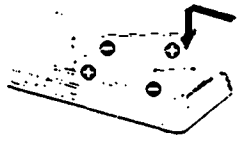
When the commander is not to be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Inserting the batteries into the remote commander

1 Open the cover.



2 Insert two size-AA (R6) batteries with correct polarity.

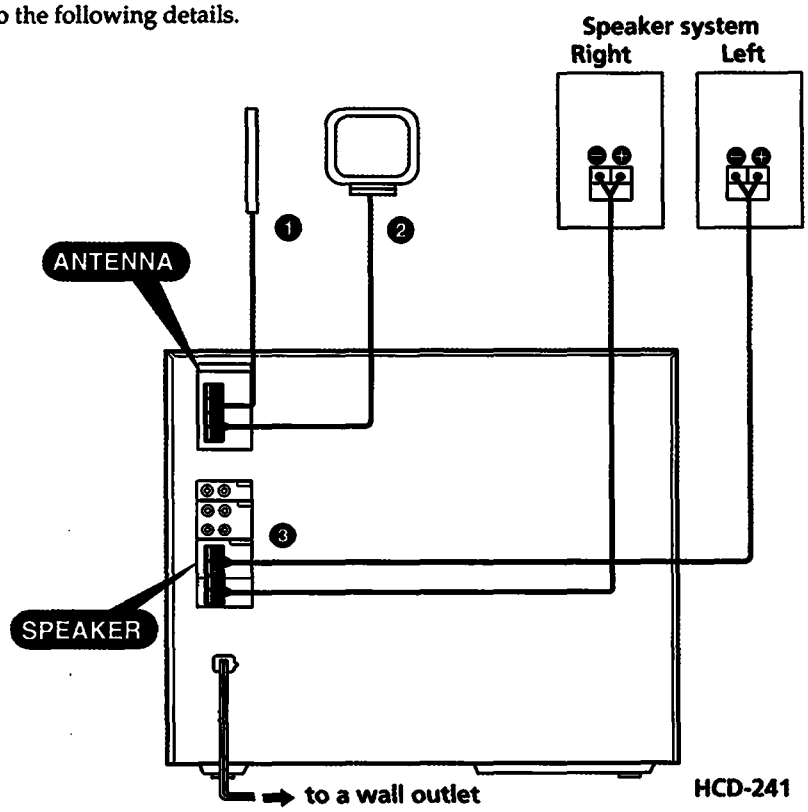


Hooking Up the System

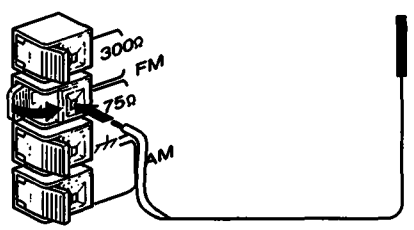
This section describes about the antenna and speaker connections. Also, it shows about the connection with the other audio equipments.

- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for the left channel (L).
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Keep speaker cords, connecting cords and power cords away from the AM loop antenna and the tuner's antenna lead-in to avoid possible noise pickup.

The numbers correspond to the following details.

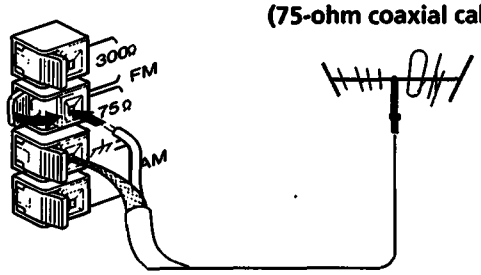


❶ FM wire antenna (supplied)



For better FM reception

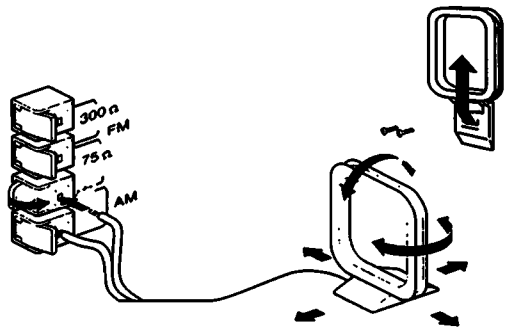
Outdoor FM antenna
(75-ohm coaxial cable)



Hooking Up the System

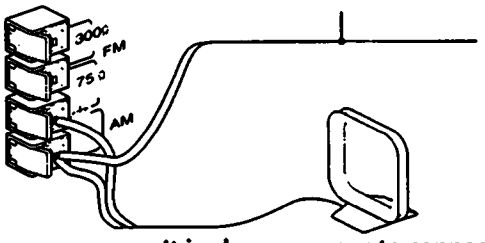
❷ AM loop antenna (supplied)

To attach to a wall



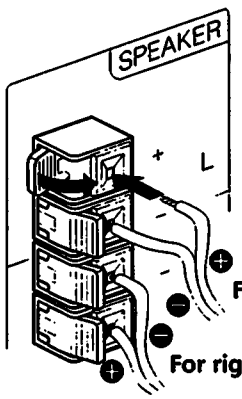
For better AM reception

Extend a 6 to 15-meter insulated wire out of doors.



It is also necessary to connect the supplied AM loop antenna.

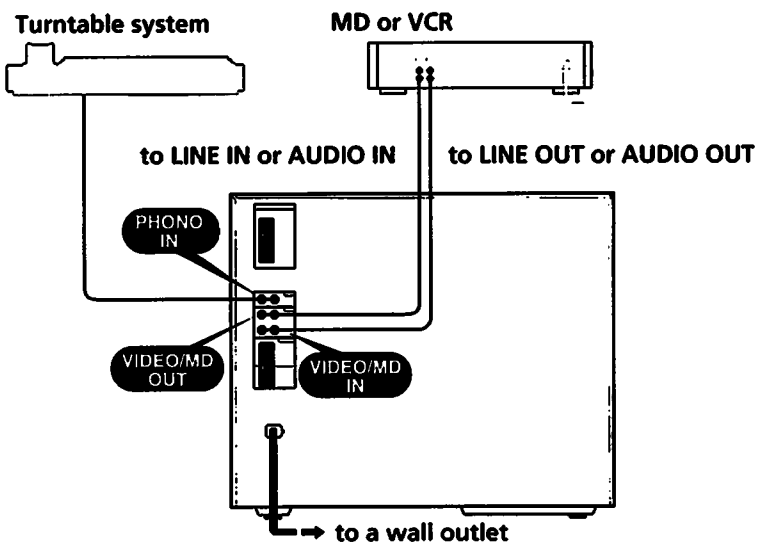
❸ Speaker cords



For left speaker

For right speaker

Adding other audio equipments to your system



Adjusting the Audio

The following operations apply only to reproduced sound.

Volume Adjustment

To increase the sound level, turn the VOLUME control clockwise.
To decrease it, turn the control counterclockwise.

Note
When listening with headphones connected to the HEADPHONES jack, no sound can be heard from the speaker system.

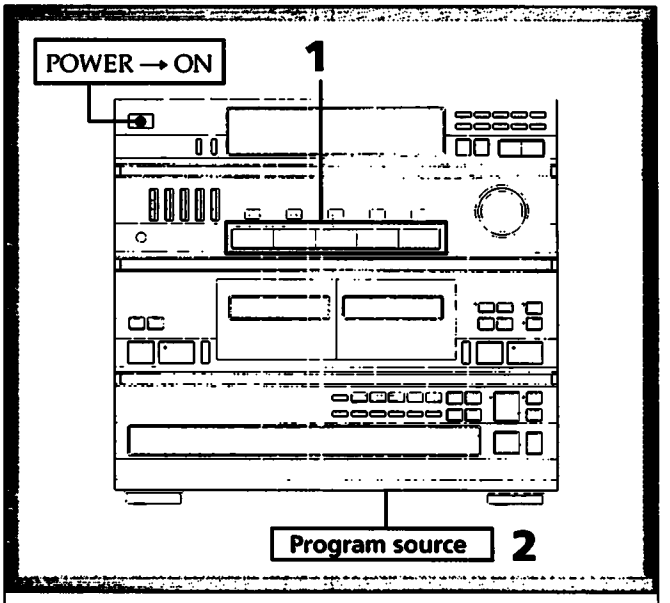
Sound Quality Adjustment

To adjust tone quality
Adjust the 5-BAND STEREO GRAPHIC EQUALIZER controls according to:
- Personal preference
- The room acoustics. For instance, playback in a room with padded walls or furniture will probably sound better with the high frequencies boosted.
- Program quality. If reproduction contains hiss, cutting the higher frequencies will improve playback.

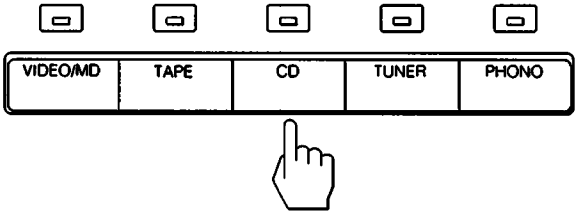
Function of the graphic equalizer controls
100 Hz: Boosts or cuts bass.
330 Hz: Adjusts the power, spaciousness and warmth of the sound.
1 kHz: Provides more presence for vocals.
3.3 kHz: Boosts a brighter sound or reduces stridency.
10 kHz: Highlights the delicate quality of instrumental sound.

For personal listening
Connect headphones to the HEADPHONES jack. No sound is heard from the speakers.

Selecting a Program Source



1 **Select the program source.**



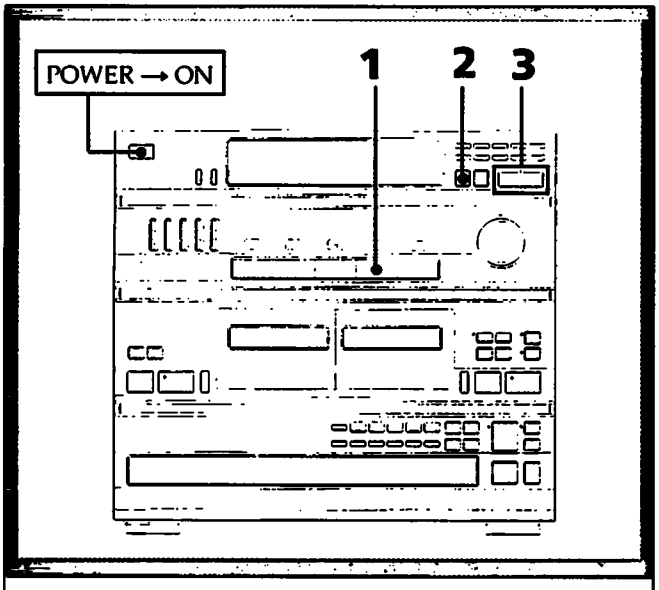
	Function selector to be pressed
Phono record	PHONO
Radio Broadcast	TUNER
Compact disc	CD
Taped program	TAPE
Video program /Mini Disc	VIDEO/MD

2 **Start the selected program.**

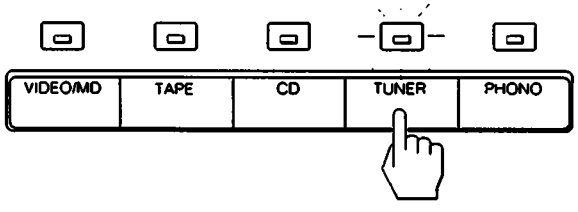
Automatic function selection
Since the function is selected automatically by starting the radio reception or playback, it is not necessary to select the program source with the function selectors.

Receiving Broadcasts

This section describes about the various convenient ways of tuning.
Before reception, be sure to connect the supplied AM and FM antenna.

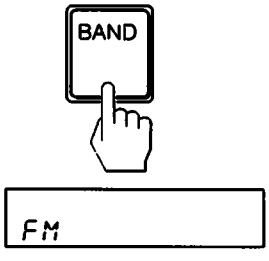


1 **Press TUNER.**



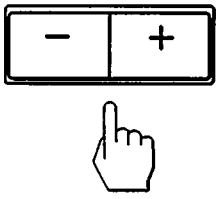
The CD section is automatically turned off in the TUNER mode.

2 **Press BAND to select FM or AM.**



3 **Press DUAL MODE TUNING – or +.**

For a lower frequency **For a higher frequency**



- Tuning in automatically
  Keep pressing DUAL MODE TUNING – or + for about 1 second.
  When a station is received, the automatic tuning stops.

To stop automatic tuning
Press DUAL MODE TUNING – or +.

- Tuning in manually
  Press DUAL MODE TUNING – or + to select the staion.

4 **Repeat step 3 until the desired station is received.**

Indicators in the display
- "TUNED" appears when a station is tuned in.
- "STEREO" appears when an FM stereo program of sufficient signal strength is received.

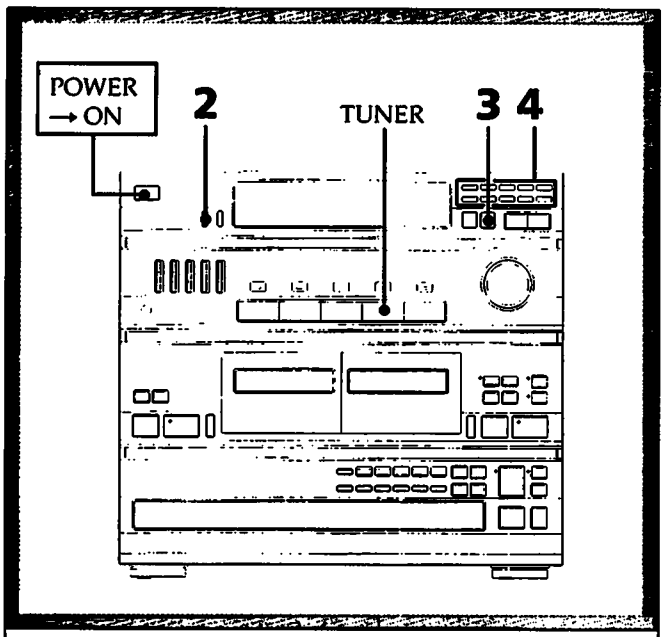
When an FM stereo program is noisy
If the stereo program is noisy, press the STEREO/MONO button to change the mode over the MONO. This eliminates the stereo effect, but the noise will be reduced.
To return to the stereo mode, press the STEREO/MONO button again.

To change the AM tuning interval
The AM tuning interval is preset at the factory to 10 kHz to match the frequency allocation system of your country. To change the interval to 9 kHz, proceed as follows.
1 Press the POWER switch to turn on the unit.
2 Press TUNER.
3 Set the BAND selector to AM.
4 Press ther POWER switch to turn the unit off.
5 While pressing the DUAL MODE TUNING + button, press the POWER switch to turn the unit on.
To reset the interval to 10 kHz, follow the same procedure.

Note
When the interval is changed, all stored stations will be erased from the memory. After changing the interval, be sure to store the stations again.

Storing Station Frequencies into Memory

Up to 10 stations can be stored in any order for each memory page (A, B, C). Therefore, 30 stations can be stored in total.

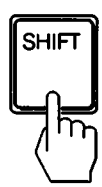


1 **Tune in a desired station. (See page 8.)**

2 **Press MEMORY.**

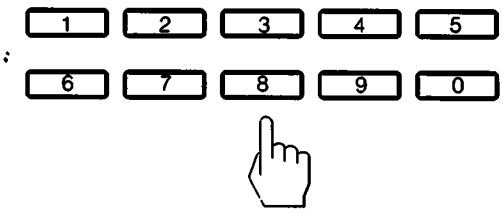
MEMORY

3 **While "MEMORY" is displayed, press SHIFT to select the memory page (A, B or C).**



Each time SHIFT is pressed, A, B or C is indicated cyclically.
The last memorized number with the selected page appears.

4 **While "MEMORY" is displayed, press the desired number.**



The memorized pages and numbers are displayed as: A – 1, B – 1, C – 1.

You can store a station only while "MEMORY" appears on the display
If "MEMORY" has gone off, press the MEMORY button again.

To cancel the storing operation after pressing the SHIFT button
Press the MEMORY button.

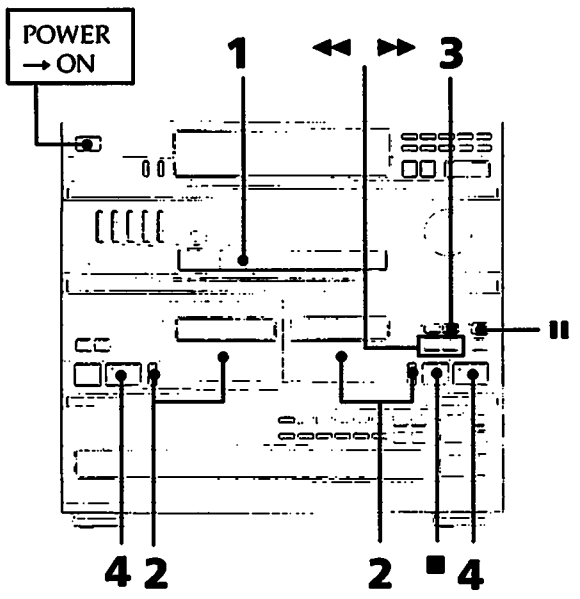
If you store a new station
Storing a new station erases the previously stored one.

Tuning in a Stored Station

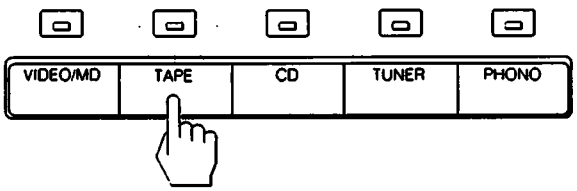
1 Press the TUNER button.
The CD section is automatically turned off in the TUNER mode.
2 Select the memory page with the SHIFT button.
3 Designate the number with the numeric buttons.

Playing Back Tapes (on either Deck A or B)

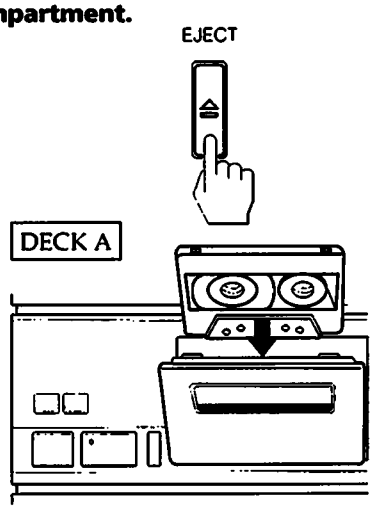
his section describes about a basic playback operation on ither deck A or B.



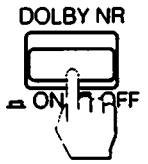
1 **Press TAPE.**



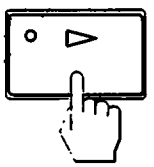
2 **Press ⏏ to open the cassette compartment, insert the tape with the side to be played back facing you and close the cassette compartment.**



3 **Press DOLBY NR to select the DOLBY NR setting.**



4 **Press ▷ to start playback.**



When the tape ends, playback automatically stops.

To stop playback, rewinding or fast forwarding, press ■.
To pause, press II.
To resume playback, press II again or ▷.
To rewind the tape, press ◀◀.
To fast-forward the tape, press ▶▶.

Notes

- During playback or recording on a deck, do not operate the other deck. (When both decks A and B are in playback mode, only playback from deck A will be audible.)
- Before turning the power off, be sure to stop playback or recording by pressing ■.

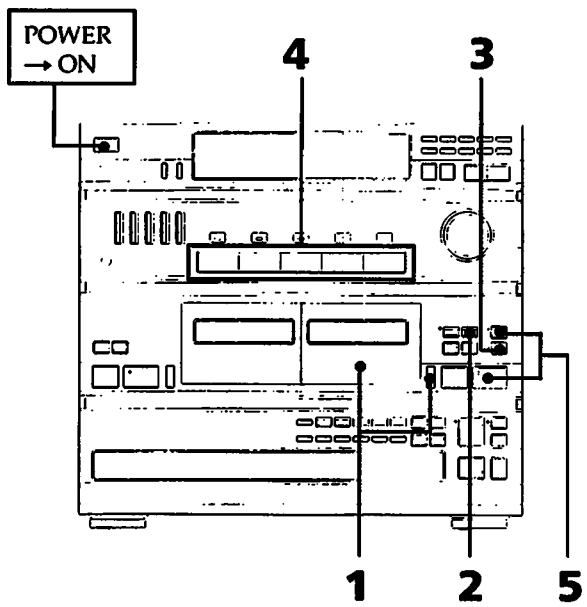
What is the Dolby NR* system?

Dolby NR (noise reduction) system reduces tape hiss noise in low-level, high-frequency signals. The system boosts these signals in recording and lowers them in playback.
When listening to a tape recorded with Dolby NR, set the DOLBY NR switch to ON.

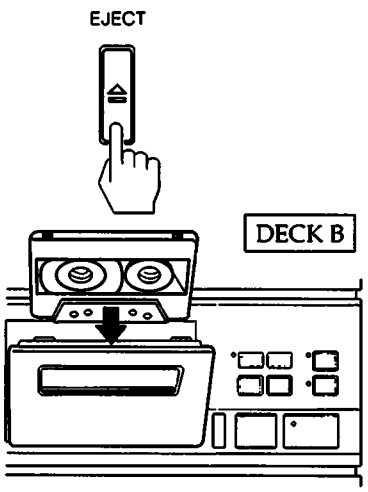
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Recording on Tapes (Deck B)

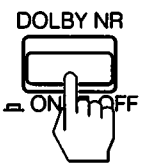
This section describes about the recording operation only on deck B.



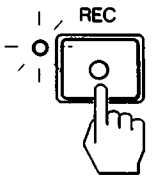
1 **Press ≙ to open the cassette compartment, insert the tape with the side to be recorded facing you and close the cassette compartment.**



2 **Press DOLBY NR to select the DOLBY NR setting.**

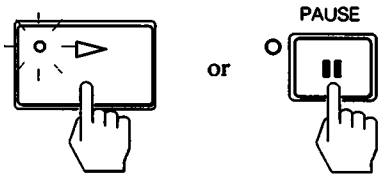


3 **Press ● to enter recording pause mode.**
The ● and ❚❚ indicators light.



4 **Play the desired program source to be recorded.**

5 **Press ▷ or ❚❚ to start recording.**
The recording pause mode will be canceled and the recording starts.
The ❚❚ indicator goes off.

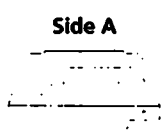
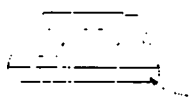


To stop recording, press ■.

Notes

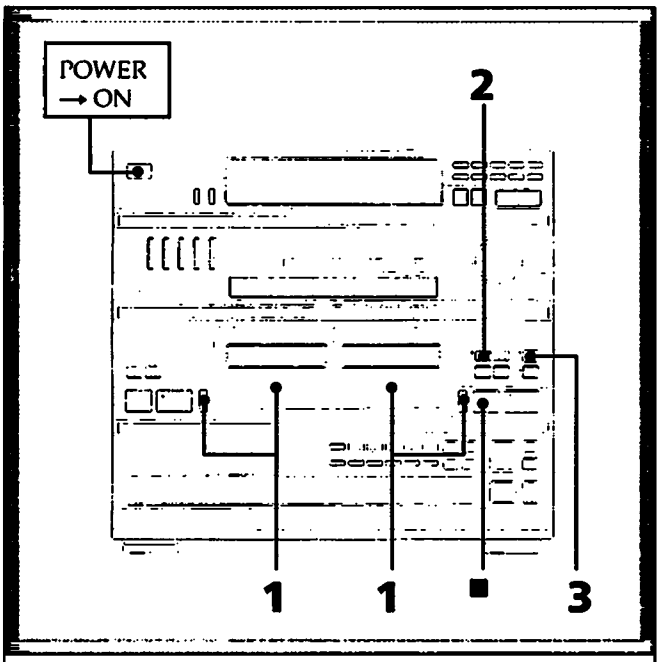
- The recording level is automatically adjusted during recording.
- In the recording mode on deck B, do not operate deck A.
- It is not recommended recording with Metal tapes.

To prevent accidental erasure

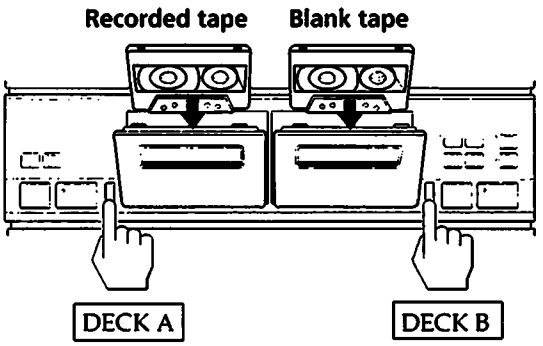
To protect side A recording	To record onto side A
Break off the tab of side A. 	Cover the opening with plastic tape. 

Dubbing Tapes (from Deck A to B)

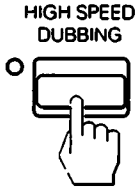
This section describes about the operation of the recording from deck A to B.



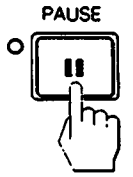
1 **Press ⏏ to open the cassette compartments, insert the tapes with the sides to be played back or recorded facing you and close the cassette compartments.**



2 **Press HIGH SPEED DUBBING.**
The unit enters recording pause mode for high speed dubbing, the ❚❚ and ● indicators light.
(Dubbing can not be carried out without pressing the HIGH SPEED DUBBING button.)



3 **Press ❚❚ to start dubbing.**
The recording pause mode will be canceled and dubbing starts.
The ❚❚ indicator goes off.



To stop dubbing, press ■ on deck A or deck B.

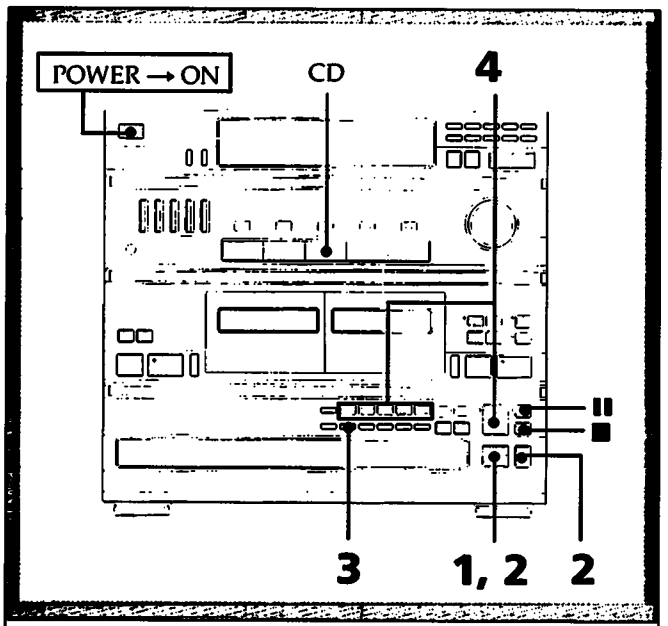
Notes

- The tape in deck B is automatically recorded with the same recording system as the original tape in deck A. So it is unnecessary to set DOLBY NR.
- If the sound is affected by a television set during dubbing, turn off the set or move it away from the unit.

Playing the Discs – Continuous Play

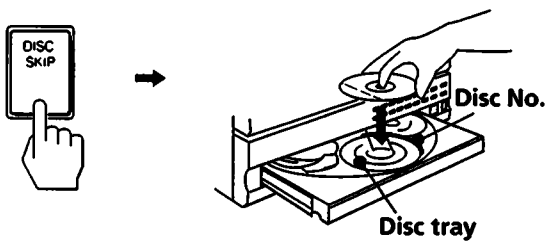
This section describes about the continuous play. This CD section can be played up to 5 discs, and you can choose to play a disc or all discs.

Before playing a disc, turn on the POWER and set the function selector to the CD mode.

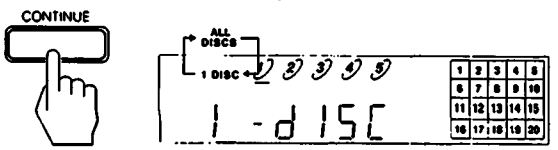


1 **Press ⏏ to open the disc table.**

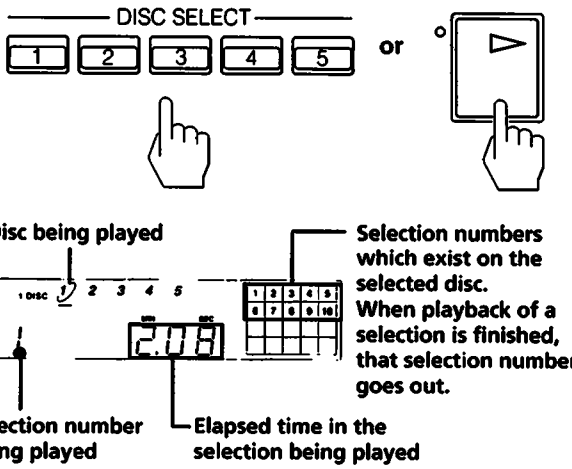
2 **Place a disc with the label side up.**
To play more than one disc, press DISC SKIP to turn the disc tray and place up to 5 discs.
After placing discs, press ⏏ to close the disc table.



3 **Press CONTINUE to choose whether to play one disc or all discs.**
Each time CONTINUE is pressed, "1 DISC" or "ALL DISCS" appears alternately.



4 **Press the DISC SELECT button or ▷ to start playback.**



To stop play, press ■.
To stop play and open the tray, press ⏏.

To stop for a moment during play, press ❚❚.
Press ▷ or ❚❚ to resume playback.

Caution on adjusting volume
Do not turn up the volume while listening to a portion with very low level or no audio signals. Otherwise, the speakers may be damaged when a peak level portion is played.

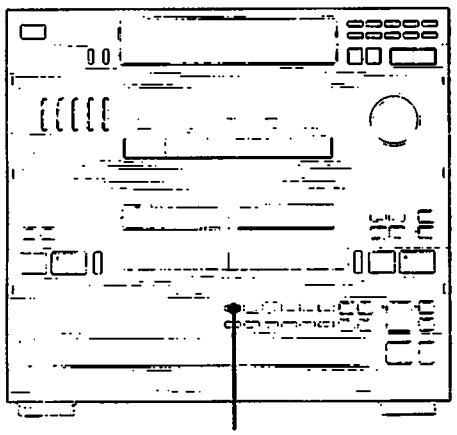
Notes

- The CD section is automatically turned off in the TUNER mode. However only the OPEN/CLOSE and DISC SKIP buttons on the CD player can be operated in any mode. This is useful when recording on tape from CDs.
- The disc number of an empty tray will be displayed until the empty tray is set to play. Once it is recognized as empty, it will disappear.

To play an 8 cm (3-inch) CD
Place it on the inner circle of the tray. If the disc is provided with an adaptor, first remove it. Do not put a normal CD (12 cm/5-inch) on top of an 8 cm CD.

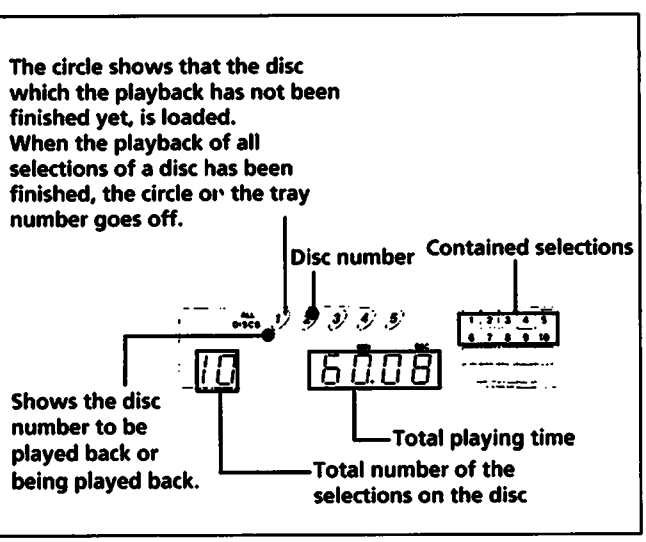
When there are no disc at all on the tray
"no d ISC" appears on the display.

Playing the Discs – Continuous Play

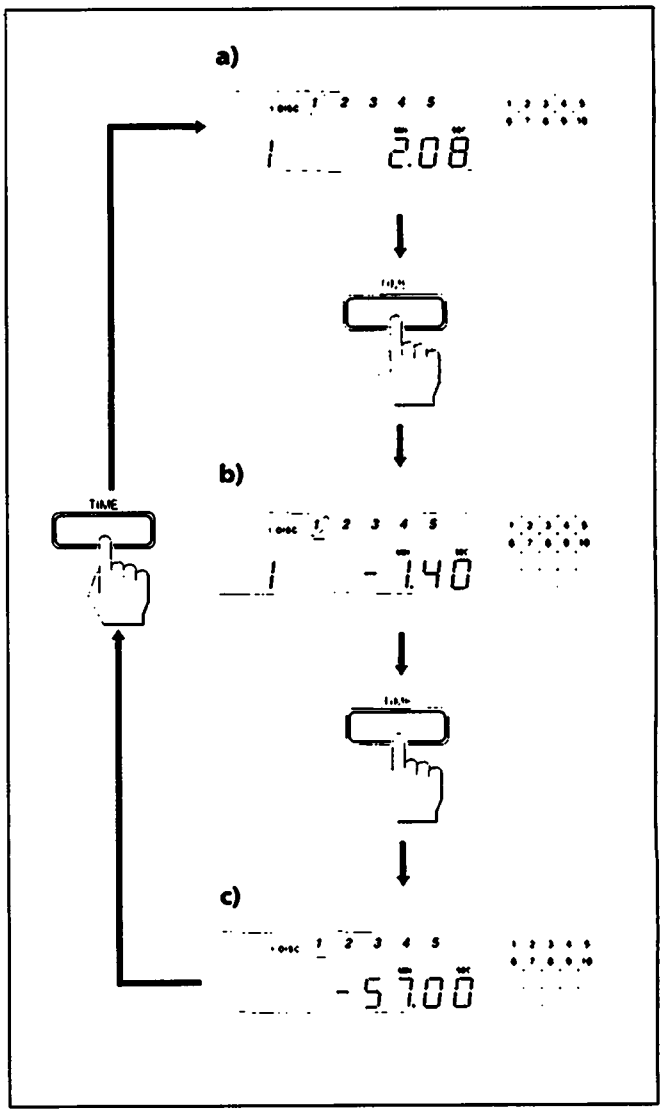


Information Display

When the disc tray is closed by pressing ⏏, the total number of selections and the total playing time of the disc to be played are displayed for a few seconds.
If you press TIME in stop mode, the total number of selections and the total playing time of the disc to be played can be displayed.

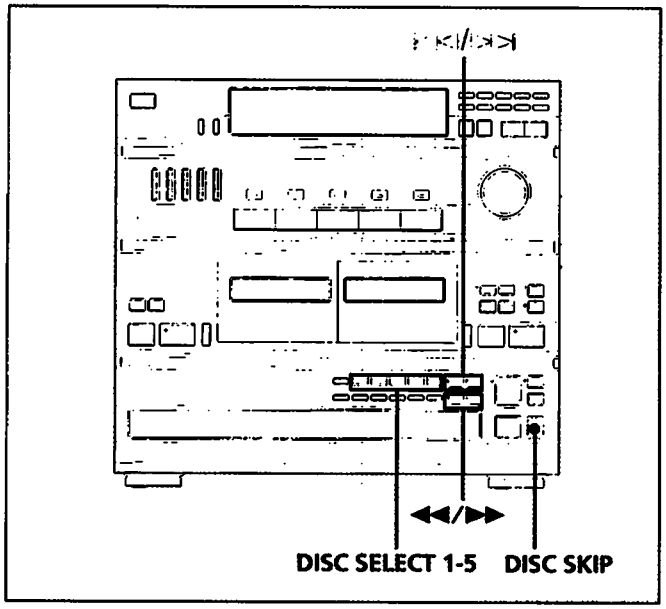

The circle shows that the disc which the playback has not been finished yet, is loaded. When the playback of all selections of a disc has been finished, the circle or the tray number goes off.
Disc number
Contained selections
Shows the disc number to be played back or being played back.
Total playing time
Total number of the selections on the disc

Each time you press TIME during playback, the display changes as follows:



a) Elapsed time of the selection (automatically displayed when playback starts.)
b) Remaining time of the selection
"--.--" indicator will appear in the display instead of the actual time, if selection number 21 or higher is selected.
c) Remaining time of the disc

Note
Remaining time of the disc is only available during the continuous mode. It will not be displayed by pressing the TIME button during the program or shuffle mode.



Selecting a Desired Disc

By using the DISC SELECT 1 to 5 buttons or the DISC SKIP button during playback, you can locate the beginning of any disc.

To select a particular disc
Press the corresponding DISC SELECT 1 to 5 button.
To move to the disc tray next to the current one
Press DISC SKIP.

Locating a Particular Selection

Locating a selection in sequence
You can locate the beginning of a selection on the disc being played.

To locate the beginning of the selection being played
Press ⏮.
To locate the beginning of the next selection
Press ⏭.

Press ⏮ or ⏭ until the desired selection is located.

Locating a Particular Point in a Selection

Locating a point in sequence (Manual Search)
You can locate a particular point during playback by monitoring the sound at high speed.

To go back at high speed
Keep ◀◀ pressed.
To go ahead at high speed
Keep ▶▶ pressed.

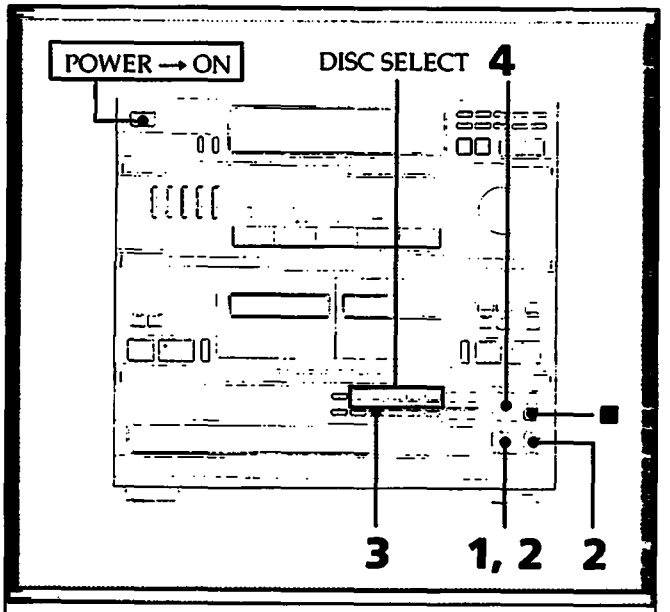
Release the button when you reach the desired point.

To locate at higher speed
Press ◀◀ or ▶▶ in the pause mode. Search speed will increase three times, but there will be no sound. Find the desired point by watching the time number on the display.

"ㄱ ㄱ" appears in the display
If you continuously press ▶▶ during play at the end of the disc, "ㄱ ㄱ" appears in the display. Press ◀◀ or ⏮ to return to the normal display.

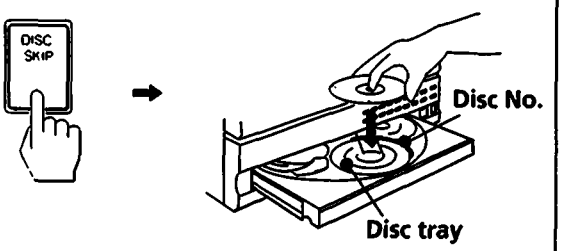
Playing in a Random Order – Shuffle Play

You can have the selections (up to 99) played in a random order. The unit will play all the discs or just one disc you desire.

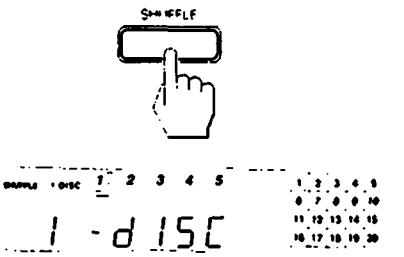


1 **Press ⏏ to open the disc table.**

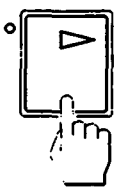
2 **Place a disc with the label side up.**
To play more than one disc, press DISC SKIP to turn the disc tray and place up to 5 discs.
After placing discs, press ⏏ to close the disc table.



3 **Press SHUFFLE to select the ALL DISCS or 1 DISC mode.**
ALL DISCS: The selections from all discs are played in a random order.
1 DISC: The selections from the current disc are played in a random order.



4 **Press ▷ to start playback.**



Once a selection is played, it will not be played again until the playback in random order is completed.

To stop playback
Press ■.

To cancel shuffle play
Press CONTINUE to return to the continuous mode.

To change from program or continuous play to shuffle play
Press SHUFFLE during program or continuous play. The program mode or continuous mode will be cleared and shuffle play will start from the current selection being played.

While the unit is shuffling the selection
"[ ]" appears on the display.

Shuffle Play on Specified Disc – Select Shuffle Play

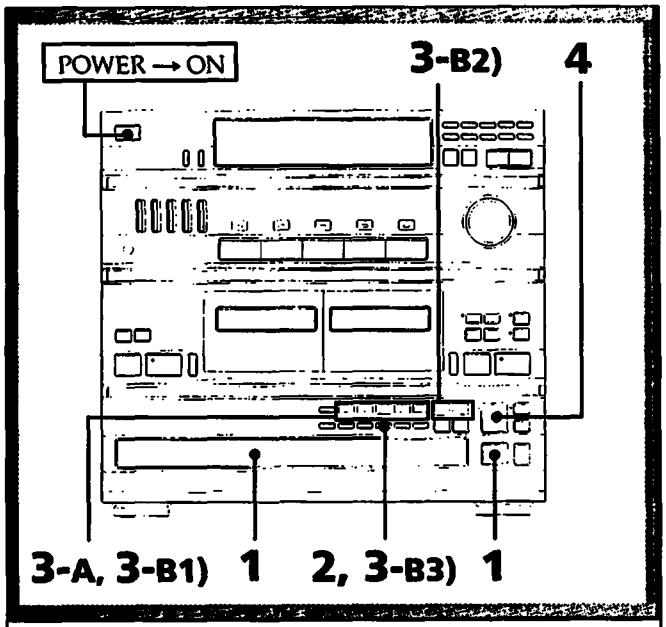
If you specify discs before or during play in ALL DISCS shuffle mode, only the selections on the specified discs will play in a random order.

To specify the discs
Press DISC SELECT 1 to 5 to specify the discs after choosing ALL DISCS mode. Semi - circles appear around the selected discs numbers to be played. To cancel the selected discs, press DISC SELECT 1 to 5 of selected discs numbers again. The semi-circles disappear.
Press ▷.
Select Shuffle Play starts.

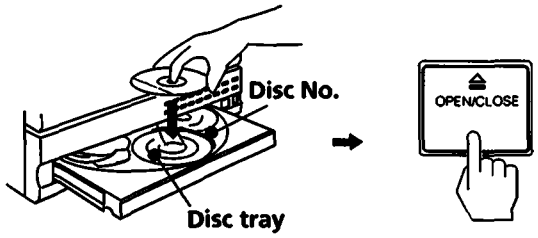
To return to all shuffle play
Press SHUFFLE twice.

Playing in a Desired Order – Program Play

You can make a program by designating up to 32 steps in the order you want them to be played. The unit will play the disc according to your program. This function is very convenient for recording on the cassette tape.

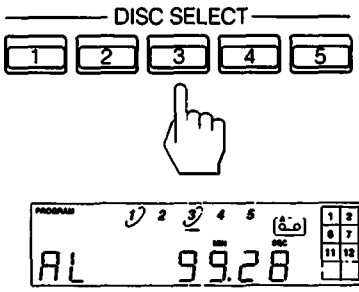


1 **Place discs with the label side up.**
After placing discs, press ⏏ to close the disc table.



2 **Press PROGRAM so that "PROGRAM" appears on the display.**

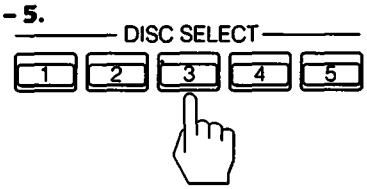
3-A **To program discs in the order you want to play.**
Press DISC SELECT 1 – 5 in the order you want to program.



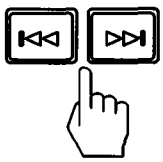
"AL" appears in the display.

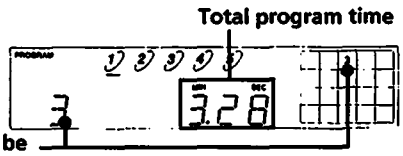
3-B **To program selections on a disc in the order you want to play.**

1) **Select the desired disc with DISC SELECT 1 – 5.**

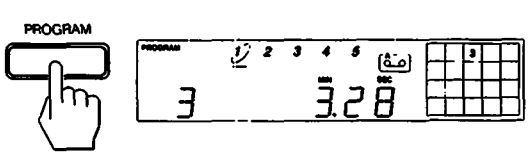


2) **Press I◁◁ or ▷▷I repeatedly until the desired selection is located.**





3) **Press PROGRAM.**

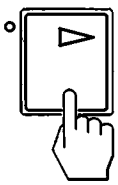


The selection is stored, and the blinking number in the display light up.

Repeat 2) and 3) to select another selection.
To program the selection(s) on another disc, repeat 1), 2) and 3).

Playing in a Desired Order – Program Play

4 **Press ▷ to start playback.**



Skipping to the next selection programmed
Press ▷▷| during playback.

Going back to the beginning of the selection being played
Press |◁◁ during playback.

To stop program play
Press ■. The last selection number programmed will be displayed.
To resume playback, press ▷. Play begins from the beginning of the program.
You can play the same program repeatedly as long as you do not cancel program play or erase the program.

To program while observing the disc labels
You can program the selections with the disc table open.

To check the program contents
Press the CHECK button. Each time the button is pressed, the program contents are displayed in the programmed order.

To cancel program play
Press CONTINUE and return to the continuous playback mode. The program will be erased.

To cancel all the selections programmed
Press ■ to cancel in stop mode.
If the disc table is opened or the power is turned off, the program contents are also erased.

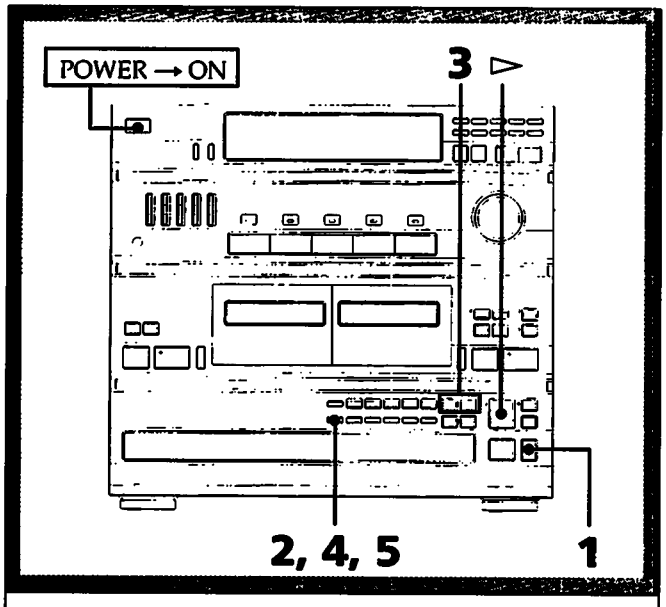
To program for recording
After steps 1 to 3-A or 3-B3), press ▮▮ to insert a pause and program the selections for side B by performing step 3-A to 3-B3).

When the selections for side A have been played, the unit will pause. ("B" lights up.)
Set the tape to the beginning of side B, then press ▷ or ▮▮.
The selections for side B will start playback.

Notes
- The playing time for selection numbers higher than 20 will not be added into the total playing time.
- When selections have been programmed for sides A and B, the display shows the selections programmed for side B and the total playing time for side B in stop mode.

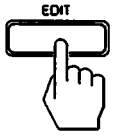
Designating the Total Playing Time – Time Edit

You can designate a time and the unit will make 2 different programs of selections each fitting within that period. Use this function by designating the length of your tape for editing both sides of a tape.

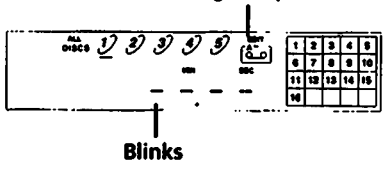


1 **Press DISC SKIP to select the disc to be played.**

2 **Press EDIT.**

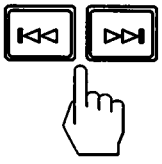


"EDIT" lights up and "A" blinks.

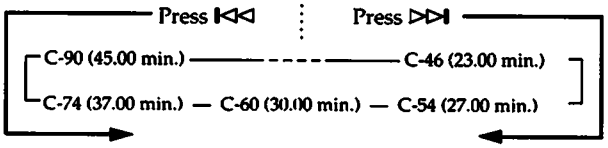


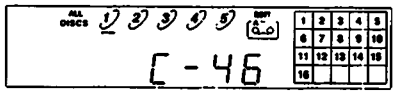
3 **Designate the length of one side of your tape.**

• To set the minute

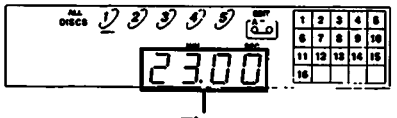


Each time ⏮/⏭ is pressed, the time changes as follows:

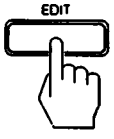




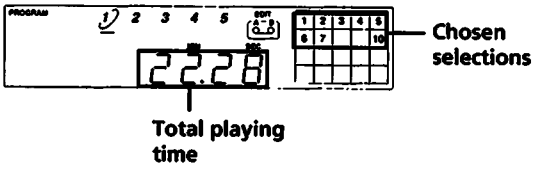
After 2 seconds



4 **Press EDIT.**



The program for side A is completed.



5 **Press EDIT once more, to make a program for the other side of your tape.**

Designating the Total Playing Time – Time Edit

To play the program
Press ▷.
The selections for side A will be played and then the unit will pause. "B" lights up in the tape side indicator. Set the tape to the beginning of side B, then press ▷ or ⏸.
The selections for side B will be played.

Note
Playback can be performed when "EDIT" is displayed.

To stop playback
Press ■.
You can play the same program repeatedly as long as you do not cancel time edit or erase the program.

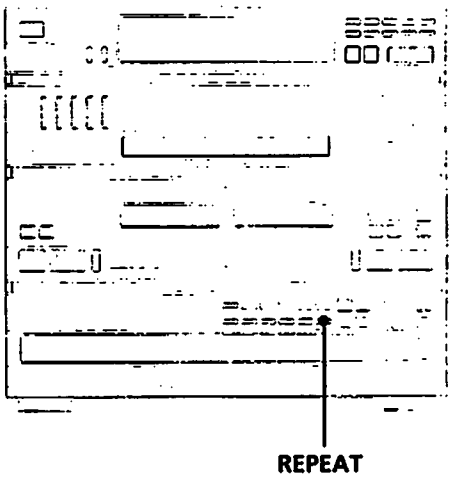
To cancel time edit
Press CONTINUE and return to the continuous playing mode.
The program will be erased.

To erase the entire program
Press ■ once during stop; twice during playback.
The program is also erased, when you turn off the unit or open the disc table.

To include desired selections in the program
1 Make your own program of the desired selections. See page 17 for instructions.
2 Follow the procedures as shown on the preceding page. Just designate the length of your tape, and you need not subtract the playing time of your program. The unit will place your selections at the beginning of its program and add other selections to fit the remaining time.

Playing Repeatedly – Repeat Play

Repeat play allows you to repeat selections in any play mode. You can repeat all discs, only specified discs, one selection, or programmed or reshuffled selections.



Press REPEAT before or during playback.

In continuous mode:
To repeat all selections on a disc (1 DISC mode) or all selections on all discs (ALL DISCS mode), press REPEAT so that "REPEAT" appears on the display.
To repeat one selection, press REPEAT so that "REPEAT 1" appears on the display.

In program mode or shuffle mode:
Only the "REPEAT" function is available.
The entire program or all selections shuffled in random order will be played repeatedly by pressing REPEAT.

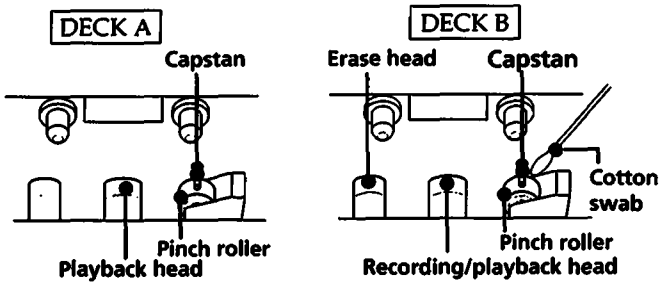
To cancel repeat play
Press REPEAT until "REPEAT" or "REPEAT 1" disappears.

Maintenance

Cleaning the Heads and Tape Path

Clean after every 10 hours of operation and before recording for optimum record/playback quality.

1 Press ⏏.
2 Slightly moisten the tip of a cotton swab with cleaning fluid or alcohol.
3 Wipe heads, pinch rollers and capstans.



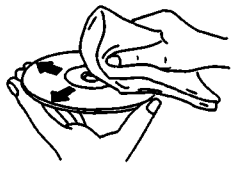
Do not insert a cassette until cleaned areas are completely dry.

Demagnetizing the Heads

After 20 to 30 hours of use, it is necessary to remove residual magnetism built up on the head. Turn off the power and demagnetize heads with any commercially available demagnetizer.

Cleaning discs

Before playing, clean the disc with the cleaning cloth. Wipe the disc from the center out.



Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for analog discs.

Notes on handling discs

- To keep the disc clean, handle the disc by its edge. Do not touch the surface.
- Do not stick paper or tape on the disc.

- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight as temperature may rise considerably.
- After playing, store the disc in its case.

Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 8-ohm loads, both channels driven, from 70 - 20,000 Hz; rated 100 watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Amplifier

Frequency response: PHONO: RIAA curve
VIDEO/MD: 10 Hz – 50 kHz ±3 dB

Input

	Sensitivity	Impedance
PHONO	2.5 mV	50 kilohms
VIDEO/MD	250 mV	50 kilohms

Output: SPEAKER: Accepts speakers of 8 to 16 ohms
HEADPHONES: Accepts headphones with low and high impedance

Graphic equalizer controls: Boost/Cut range: ±8 dB (100 Hz, 330 Hz, 1 kHz, 3.3kHz)
±6 dB (10 kHz)

Tuner

System: FM stereo, FM/AM superheterodyne tuner
Quartz-locked PLL digital synthesizer system

FM tuner section

Tuning range: 87.5 – 108 MHz
Antenna terminals: 75 ohms unbalanced
300 ohms balanced
Intermediate frequency: 10.7 MHz
Sensitivity (at 50 dB quieting)
22.1 dBf, 7 µV (mono)
42.1 dBf, 70 µV (stereo)
Usable sensitivity: 19.5 dBf, 5 µV (IHF)
Signal-to-noise ratio (at 75 kHz deviation)
80 dB (mono)
75 dB (stereo) at 1 kHz
Separation: 35 dB at 1 kHz
Selectivity: 55 dB at 400 kHz
Harmonic distortion: 0.3% (mono)
0.5% (stereo) at 1 kHz

AM tuner section

Tuning range: 530 – 1,710 kHz (10 kHz)
531 – 1,710 kHz (9 kHz)
Antenna: AM loop antenna, External antenna terminals
Intermediate frequency
450 kHz
Usable sensitivity: AM loop antenna: 500 µV/m (1,000 kHz)
Signal-to-noise ratio: 54 dB
Harmonic distortion: 0.5%
Selectivity: 38 dB (10 kHz)

Tape Deck

System: 4-track 2-channel stereo
Frequency response (DOLBY NR OFF)
With TYPE II cassette (Sony UCX-S): 30 – 14,000 Hz (±3 dB)
With TYPE I cassette (Sony HF-S): 30 – 13,000 Hz (±3 dB)
Wow and flutter: 0.12% WRMS (NAB)

Compact Disc

System: Compact disc digital audio system
Laser: Semiconductor laser
Wavelength: 780-790 nm
Frequency response: 2 Hz – 20 kHz (±1.5 dB)
Harmonic distortion: Less than 0.03 % (1 kHz)

General

Power requirements: 120 V AC, 60 Hz
Power consumption: 180 W (Model for U.S.A)
250 VA (Model for Canada)
Dimensions: Approx. 430 x 410 x 400 mm (w/h/d) ($17 \times 16^{1}/_{16} \times 15^{1}/_{4}$ inches) (including projecting parts and controls)
Mass: Approx. 13.2 kg (29 lb 2 oz) net
Accessories supplied
AM loop antenna (1)
FM wire antenna (1)
Remote Commander RM-S241 (1)
Sony batteries SUM-3(NS) (2)
Headphone MDR-006 (1)
(Model for Canada)
Plug adaptor (1)
(Model for Canada)

Design and specifications are subject to change without notice.

Troubleshooting

Before going through the check list below, first refer back to the connection and operating procedures.
Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Tuner Operation	
STEREO indicator blinks.	• A very weak FM station or a noisy FM program is received. → Adjust the antenna or connect an external FM antenna. • If noise is noticeable, set the STEREO/MONO button to MONO so that the STEREO indicator goes off.
Severe hum or noise.	• The signal strength is too weak. → Adjust the antenna, connect an external antenna or connect the ground wire.

Cassette Deck Operation	
The ● button does not activate.	• No tape in the cassette compartment. • The tab has been removed from the tape. (See page 11.) → Cover the opening with plastic tape.
Function buttons do not activate.	• Cassette compartment is not fully closed.
Recording or playback cannot be made, or there is decrease in sound level.	• Recording/playback and erase heads are either dirty or magnetized. → Clean or demagnetize the heads. (See page 21.)
Excessive wow, flutter or dropout.	• Capstan or pinch roller is dirty. (See page 21.)
Incomplete erasure.	• Erase head is dirty. (See page 21.)
Unbalanced tone in high frequencies.	• Improper setting of the DOLBY NR switch. → When playing back, set the switch to the same position used in recording.

Compact Disc Operation	
Remote commander does not operate the unit.	• No disc in the CD section. • The unit is in the pause mode. → Press ▷ or ▮▮ to release pause. • Moisture condensation. → Leave the unit turned on for about an hour. • The disc is set upside down. → Set the disc with the label side up. • The disc is tilted. → Set the disc correctly. • The disc is extremely dirty.
Any operation is not possible.	• The internal control program may not run. → Turn off the power and turn it on again.

Troubleshooting

General	
The unit is not turned on.	• Check if any button on the front panel has been pressed before turning on the POWER switch.
No audio.	• Check the power cord connection. • Check the connections. (See pages 5 to 6.)
No audio from one channel.	• Check the speaker cord or connecting cord connection. (See pages 5 to 6.)
Noise when TV is turned on.	• Move the TV away from the audio system.
Lack of bass sound or obscure instrument position.	• Check the connection between the amplifier and speakers.

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